manager **153**, and further interfaces to external data sources **155, 156** (these databases **155, 156** store raw data as the database information). The manager **152** determines the need for remote data access via a communications manager **157**, and passes on remote data requests to the manager **157**. The manager **152** also provides all data access services to other managers and modules within the controller **14**. For example, if the data is not stored locally, the data manager **152** sends a request to the communications manager **157** to provide the desired data.

A print manager **153** handles and controls printing activities in the system, such as to a connected printer **154** (similar to the printer **110**, FIG. 7C; or such as a printer connected directly to the database **12**). By way of example, the manager **153** requests map and other data from the data manager **152** to create and print outputs requested by the system kernel module **159**. Specifically, the manger **153** responds to requests from the system kernel module **159** for print services, and sends requests to the data manager **152** based upon the system kernel requests. The manager **153** uses the information supplied by the data manager **152** to create formatted output for printing, such as by utilizing a standard Windows™ print driver interface to print the requested output.

The communications manager **157** handles all remote communications requirements, including remote data requests, and further accepts and transfers raw data from a remote data source **158** (such as data downloads to modify or add to data within the database). The manager **157** responds to requests from the system kernel module **159** for initialization, connection, and shutdown of remote connections appropriate with the actual hardware in use. It also responds to remote data requests from the data manager **152** by sending the request for remote data to the remote data source **158**. When the remote data source **158** responds to the request, the communications manager **157** passes that response on to the data manager **152**.

The system kernel module **159** traps all user inputs and determines required actions in the system, including those actions responsive to a user's inputs **160** (such as described above in connection with the keyboard **24**). Specifically, the module **159** responds to mouse movements, mouse button clicking, and typing. Depending on the user's input, the module **159** will send requests for services to (i) the display manager **150** to update the display, (ii) the data manager **152** to provide information concerning the map and/or other system needs, (iii) the print manager for printing services, and (iv) the communications manager **157** for remote communications services.

FIG. **12** illustrates one preferred embodiment of the invention wherein certain advertising information is included within, or attached to, the geographic vicinity which is displayed or printed to a user at a remote port. For example, FIG. **12** shows one illustrative geographic vicinity **30'** which was shown previously in FIG. **2**, except that an advertisement **180** is displayed as part of that vicinity (the advertisement **180** is generically shown with the text "ADVERTISEMENT," when, in fact, a paying customer's name or company is usually displayed at that location). In the normal use of the invention, the advertiser who pays for the advertisement is generally associated with the items of interest being displayed. For example, a credit card bank or sporting goods manufacturer typically specify (and pay for) the "advertisement" logo or wording.

It should be apparent to those skilled in the art that any of the items of interest within a displayed geographic vicinity can be selected by a user and that the database can thereafter

supply additional detail about that selected item of interest. In such an embodiment of the invention, the database is configured to store such additional detail and also to transmit this information to the remote port when selected. The remote port, in turn, displays the information for the user. By way of example, if the selected category is "restaurants" and a user selects a particular restaurant (i.e., one of the items of interest), a display of additional detail can, for example, include a digital picture of the layout of the dining room or bar. Additionally, the entertainment scheduled for that evening can be displayed while a recording of any associated music is played at the remote port's speakers.

Thus, a further embodiment of the invention includes a digitized, multi-media presentation that is transmitted to the remote port when an associated item of interest is selected. Using a camrecorder and/or other video capture, storage, and editing analogue or digital devices, for example, a short video clip is embedded in the data associated with the information about the items of interest and transmitted and displayed when selected.

In order to utilize the above-described multi-media presentation, the system of the invention must provide sufficient bandwidth, processing speed, and display resolution, and the remote port must display the multi-media transmissions with sufficient speed and resolution so as to be convenient to the user of that information. Typically, the minimum central processing unit of the database and remote port run at least at 16 MHZ and is based on a CISC (complex instruction set) architecture. Further, the database, remote port and communications link should be able to transmit data at an uncompressed speed of 9600 baud per second; preferably, these devices should be faster, e.g., 28.8 Kbps, utilizing modems that subscribe to emerging industry standards such as V.34. Additionally, special connections may be required at the server, including what are known to those skilled in the art as SLIP, PPP, and TC/ICP protocols. In some cases, where additional bandwidth may be required, the modem is replaced with special interfaces provided by regional telecommunications systems that also provide dedicated optic fiber cabling. Some of those linkages are known as T1, ISDN, and 56 Kbps wide band-width connections. In addition, bandwidth may be enhanced by microwave and other communication links that do not require direct cabled connections.

The invention thus attains the objects set forth above, in addition to those apparent from the preceding description. Since certain changes may be made in the apparatus and methods described herein without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawing be interpreted as illustrative and not in a limiting sense.

It is also understood that the following claims cover all the specific and generic features of the invention described herein, and all statements of the scope of the invention which, as a matter of language, might be said to fall there between.

What is claimed is:

1. System for remotely determining the position of a selected category of items of interest in a selected geographic vicinity from a database, the system comprising

(A) a database for storing information about a plurality of items of interest, the information including, for each of the items of interest, positional coordinates, a geographic vicinity, and at least one associated category, the positional coordinates locating the geographic vicinity,

(B) a communications link for communicating between a user of the system and the database,